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XXXVII. Some Observations relating to the  
Lyncurium of the Ancients ; by William  
Watson, M. D. F. R. S.

Read Dec. 20, 1759.

**T**O determine the substance, denominated *Lyncurium* by the ancients, has been the occasion of much controversy among the more modern naturalists; some of whom, as late Dr. *Woodward*, believed it to be a species of the *belemnites*; others, as the late \* *M. Geoffroy*, considered it as *amber*. But it is evident from † *Theophrastus*'s description of the *Lyncurium*, which is the most complete that has been handed down to us, that neither the one nor the other of the before-mentioned substances could be what he intended. His words are, Καὶ τὸ λυγκύριον. καὶ γαρ εκ τέτε ργλίφειαι τὰ σφραγίδια. καὶ ἐξι τερεολάτη, καθαπέρ λίθου. ἔλκει γαρ ὥσπερ τὸ ἄλεκτρον. οἱ δὲ φάσιν ἐ μονον καίρφη καὶ ξυλον, αλλα καὶ χαλκον καὶ σιδηρον, εσσι ἡ λεπίος. ὀπέρι καὶ Διοκλῆς ἔλεγεν. "Ἐτι δέ σταχανή τε σφόδρα καὶ περρά. .... γίνεται δέ καὶ καλεργασία τις αὐτος ἀλειων. From hence we learn, that "the *Lyncurium* was a stone " used for engraving seals on: that it was very hard: " that it was endowed with an attracting power like " amber: and that it was said, and by *Dioctes* " among the rest, to attract not only straws and " small pieces of wood, but also copper and iron, if " beaten very thin: that it was pellucid, and of a

\* Mater. Med. Vol. I. p. 165. de succino.

Idem et *Lyncurium* quoque dicitur.

† *Theophrastus* περὶ τῶν λίθων.

" deep-

" deep-red colour ; and required no small labour to  
 " polish it." The rest of *Theophrastus*'s description  
 is taken up with the fabulous account of the genera-  
 tion of this stone, " that it is formed by the urine of  
 " the lynx, which the animal, as soon as it parts  
 " with it, hides, and scrapes the earth together over  
 " it ; and that the stones vary according to the sex  
 " and disposition of the animal."

*Dioscorides* \*, in his history of the *Lyncurium*,  
 gives us only the fabulous history of its generation,  
 before mentioned by *Theophrastus* ; and subjoins, that  
 it is called by some Ἡλεκτρον πλευρυοφόρον ; that is,  
 amber, which attracts feathers to it.

*Pliny*, in his history †, disbelieves both the fabu-  
 lous account of the generation of the *Lyncurium*, as  
 well as its attractive quality, related both by *Diocles*  
 and *Theophrastus*, and considers the whole as a falsity;  
 though he is candid enough to confess, that neither  
 himself, nor any one else in that age, had seen a gem  
 of that appellation.

*Theophrastus*, though more ancient, is, in most  
 particulars, more to be depended upon than either  
*Dioscorides* or *Pliny*. He ought to be considered  
 much more of an original author, and one who wrote  
 from his own knowledge, than the others, who, va-  
 luable as they are, must be regarded, in most respects,  
 as compilers. His account, then, of the appearance  
 and properties of the *Lyncurium* must be considered,  
 in order to examine, if any substance, known in our

\* Lib. II. cap. c.

† Plin. Hist. lib. XXXVII. cap. iii. Ego falsum id totum arbit-  
 tor, nec visum in ævo nostro gemmam ullam è appellatione.

time, answers his description. But, first, it is plain that Dr. Woodward's hypothesis of the *belemnites* being the *Lyncurium*, was ill founded; inasmuch as the belemnites is neither pellucid, nor fit for engraving seals upon, on account of the friability of its texture; neither can it, by any management, be made to attract straws, chips of woods, or other light bodies. Nor is *Geoffroy*'s opinion less liable to exception; as amber, though it has the attractive power mentioned by *Theophrastus*, yet it has by no means the firm texture requisite to have seals engraved upon it; neither is it so very hard, as is expressly said by this author concerning the *Lyncurium*, as to require great labour in polishing it. Add to these, that *Theophrastus* has given a *particular account* of the history and properties of *amber* \* separately, in the before-mentioned work.

If, after what has been said, I may be permitted to give my thoughts concerning the *Lyncurium* of the ancients, I make no scruple to think it to be exceedingly probable, that what we now call the *Tourmaline* was the *Lyncurium* of *Theophrastus*, as it agrees with that author's description in all its sensible qualities; to wit, that it is a very hard pellucid stone, of a deep-red colour; that it is very proper to engrave seals upon; that it attracts, like amber, not only straws and light pieces of wood, but filings of iron and brass, as has been lately evinced by many experiments. And what will give some weight to this

\* Vide *Theophrast.* περὶ τῶν λίθων. νγ.  
Καὶ τὸ ἥλεκτρον λίθος. καὶ γαρ ὄρυξιν τὸ περὶ Λιγυσικόν. καὶ τὰ οὐράνια  
τὰ ἔλκειν δύναμις ἀπολεθεῖν.

opinion is, that this stone, though not much attended to by us till very lately, is very common in several parts of the East Indies, and more particularly in the island of Ceylon, where it is called by the natives *Tournamal*.

The first account which we have had, of late years at least, of this extraordinary stone, was in the History of the Royal Academy of Sciences of Paris, for the year 1717; where we are told, that Mr. Lemery exhibited a stone, which, he said, was not common, and came from Ceylon. This stone attracted and repelled little light bodies, such as ashes, filings of iron, bits of paper, and such like. The publisher of that history then proceeds to give some reasons for these phenomena. *Linnæus*, in his preface to the *Flora Zeylanica*, mentions this stone under the name of *lapis eleætricus*; and takes notice of M. Lemery's experiments before-mentioned.

Notwithstanding this, no further mention was made of this stone, and its effects, till very lately. The duke *de Noya*, in his letter to M. de Buffon, which was presented to the Royal Society a few months ago, informs us, that when at Naples in the year 1743, the late count *Pichetti*, secretary to the king, assured him, that, during his stay at Constantinople, he had seen a small stone, called a tourmaline, which attracted and repelled ashes. This account the duke *de Noya* had quite forgot; but, being last year in Holland, he saw and purchased two of these stones, which are there called *aschentrikker*. The making experiments with these called to his remembrance what formerly had been told him by count *Pichetti*. With these stones he made, in company with Mes-fieurs

sieurs *Daubenton* and *Adanson*, a great number of experiments, of which the duke has favoured the public with a particular account.

In the year 1757, there were two accounts published upon this subject: the one is a memoir of M. *Æpinus*, read to the Royal Academy at Berlin, intituled, *De quibusdam experimentis electricis notabilioribus*. The other is a treatise in quarto, printed at Rostock, intituled, *Disputatio de electricitatibus contrariis*. *Auctore Joanne Carolo Wilke*. Since which time, Dr. *Heberden*, who is ever desirous of extending the bounds of science, having procured some of these stones from Holland, a great number and variety of experiments with them have been made here, particularly by the ingenious Mr. *Wilson*; an account of which he has very lately communicated to the Royal Society.

**XXXVIII. An Attempt to account for the regular diurnal Variation of the horizontal magnetic Needle; and also for its irregular Variation at the Time of an Aurora Borealis: By John Canton, M. A. and F. R. S.**

Read Dec. 13, 1759. **T**HE late celebrated Mr. *George Graham* made a great number of observations on the diurnal variation of the magnetic needle, in the years 1722 and 1723; but declared himself ignorant of the cause of that variation, in No 383 of the Philosophical Transactions, where many of those observations are to be found. About